REMARKS

Claims 1-16 are pending, with claims 14-16 having been withdrawn from consideration pursuant to a previous Restriction Requirement. Claims 1, 4, 8, and 13 have been amended.

Claim Objections:

Claims 8-12 are objected to because of an informality in claim 8. An appropriate correction was made in line 6 of claim 8 and the word "and" is replaced with "an".

Claim Rejections - 35 U.S.C. § 112:

Claims 5 and 6 are rejected under 35 U.S.C. § 112 because the specification was found not to reasonably provide enablement for the apertures being formed after the part is removed from the mold assembly. Applicant respectfully submits that the claims are part of the specification as originally filed and hence the specification provides disclosure of the apertures being formed after the part is removed from the mold assembly. The disclosure has been amended to include 2 new paragraphs reciting the limitations of claims 5 and 6 so as to provide support for claims 5and 6 in the "Description of the Preferred Embodiment" section of the instant Application. No new matter is introduced by way of this amendment.

It is believed that the rejection of claims 5 and 6 under 35 U.S.C. § 112 is overcome by way of this amendment. Therefore, Applicant requests that the rejection of claims 5 and 6 be withdrawn.

Claim Rejections - 35 U.S.C. § 103:

Claim 1 is rejected under 35 U.S.C. § 103(a) as being unpatentable over Applicant's Admitted Prior Art (AAPA) in view of Lan et al. (U.S. Patent No. 6,391,449).

Claims 2-7 are rejected under 35 U.S.C. § 103(a) as being unpatentable over AAPA/Lan et al. as applied to claim 1, and further in view of Noba et al. (JP410244889).

Claims 8-12 are rejected under 35 U.S.C. § 103(a) as being unpatentable over AAPA/Lan et al. as applied to claim 1, and further in view of Petrelli (U.S. Patent No. 5,000,333) and Plant (U.S. Patent No. 5,649,587).

Applicant respectfully traverses the rejection of claim 1 as being obvious having regard to AAPA and further in view of Lan et al. Applicant further traverses the rejection of claims 2-7 and 8-12 in view of AAPA/Lan et al. having further regard to Noba et al. and Petrelli and Plant, respectively. Therefore, Applicant requests that the rejection of claim 1, claims 2-7, and claims 8-12 be withdrawn.

Enclosed with this response is a declaration under 37 C.F.R. § 1.131 to establish invention of the subject matter of the rejected claims prior to the effective date of Lan et al., namely Dec. 7, 1998. Therefore, the Lan et al. reference is not prior art with respect to the present invention and must be withdrawn as a prior art reference.

Furthermore, the Office Action states that Applicant describes a prior art method for blow molding large parts that are greater than 2 lbs in weight and having a total surface area of greater than 400 sq. inches, the method comprising using parison reinforced by mineral fillers or glass fibers. Applicant does not describe such a prior art method. The "Background of the Invention" section merely states that there has been an increase in the demand and applications for such large, molded plastic parts. The background section further states that the ability to ***blow molding*** large complex parts is limited by the fact that the parts produced can be only so large or so thin before the parts lose their structural integrity and impact resistance. Conventionally, large complex plastic parts would be reinforced by mineral fillers or glass fibers. However, such reinforcement cannot be effectively used in blow molding operations because a) it limits

parison expansion characteristics, b) has a deleterious effect on the blow molding assembly, and c) has a deteriorating effect on impact resistance of the part. Therefore, there is a need to overcome these problems in the prior art to provide a method for blow molding large plastic parts.

The preamble of claim 1 has been amended to recite "A method for blow molding large parts" to more clearly define the invention.

The instant invention as defined in claim 1 provides a reinforced plastic melt comprising at least one thermoplastic material and reinforcement particles dispersed within the at least one thermoplastic material, the reinforcement particles comprising less than 15% of a total volume of the plastic melt, at least 50% of the reinforcement particles having a thickness of less than about 20 nanometers, and at least 99% of the reinforcement particles having a thickness of less than about 30 nanometers. Smaller parts are not benefited vis-à-vis reinforcement to the same extent as larger parts and they usually do not require the same degree of structural integrity as larger parts. Furthermore, the present invention provides a method of making large plastic parts that have thinner wall sections but have comparable performance to conventionally prepared parts. The use of nanoparticles can provide the mechanical, thermal, and dimensional property enhancements, which are typically obtained by adding 20-50% by weight of glass fibers or mineral fillers or combinations thereof to polymers. However, only a few percent of nanoparticles are required to obtain these property enhancements. As a result, many of the typical negative effects of the high loadings of conventional reinforcements and fillers are avoided or significantly reduced, such as lower specific gravity for a given level of performance, better surface appearance, toughness close to that of the unreinforced base polymer, and reduced anisotropy in the molded parts.

Applicant submits that claim 1 is allowable in view of the above discussion and the declaration under 37 C.F.R. § 1.131 establishing an earlier invention of the subject matter of the rejected claims of the instant invention prior to the effective date of Lan et al.

Claims 2-7 and 8-12 depend from claim 1 are therefore are deemed to be allowable for at least the foregoing reasons.

Claim 4 has been amended to correct a typographical error.

Applicant thanks the Examiner for indicating that claim 13 would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims. Claim 13 has been amended accordingly.

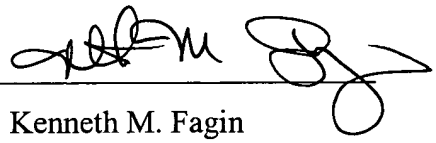
No new matter has been introduced.

Applicant kindly requests reconsideration of this application.

As this response has been timely filed within the set period of responses, no petition for extension of time or associated fee is required. However, the Commissioner is hereby authorized to charge any deficiencies in the fees provided, or credit any overpayment to Deposit Account No: 03-3975

If it is felt that an interview would expedite prosecution of this application, please do not hesitate to contact applicant's representative at the number below.

Respectfully submitted,
Pillsbury Winthrop LLP

By: 

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APPENDIX A

Marked-Up Version of Amended Paragraphs and Claims (37 C.F.R. § 1.121)

IN THE DISCLOSURE:

The following 2 new paragraphs are inserted on page 10, after the paragraph at lines 22-23 and reading "As shown, the support structure can be nestingly received with respect to a motor vehicle fascia, indicated at 60.

In accordance with another embodiment of the invention, the apertures 54 in the radiator frame portion 52 are formed after the structure 50 is removed from the mold assembly.

In accordance with yet another embodiment of the invention, the apertures 58 of the recesses 56 are formed after the structure 50 is removed from the mold assembly.

IN THE CLAIMS:

Claim 1 is amended as indicated below:

1. (Once amended) A method for blow molding large parts, comprising the steps of:

providing a reinforced plastic melt comprising at least one thermoplastic material and reinforcement particles dispersed within the at least one thermoplastic material, the reinforcement particles comprising less than 15% of a total volume of the plastic melt, at least 50% of the reinforcement particles having a thickness of less than about 20 nanometers, and at least 99% of the reinforcement particles having a thickness of less than about 30 nanometers;

communicating a tubular formation of said plastic melt to a mold assembly having a mold cavity defined by mold surfaces, said mold surfaces corresponding to a configuration of the part to be molded, an amount of said plastic melt communicated to said mold assembly being sufficient to form

a part having a weight of at least 2 pounds and a total surface area of at least 400 sq. inches;

applying pressurized gas to an interior of said tubular formation to expand said tubular formation into conformity with said mold surfaces;

solidifying said plastic melt to form said part; and

removing said part from said mold assembly.

Claim 4 is amended as indicated below:

4. (Once amended) A method according to claim 3, wherein said support structure further [include] includes another pair of recesses constructed and arranged to mount parking lights therein.

Claim 8 is amended as indicated below:

8. (Once amended) A method according to claim 1, wherein said part comprises a substantially hollow,

bumper for a motor vehicle, said method further comprising:

mounting said bumper to an exterior of the motor vehicle at an end of the motor vehicle;

communicating [and] an interior of said bumper to a fluid consuming component of the motor vehicle; and

filling said bumper with fluid to enable said bumper to serve as a fluid reservoir for said fluid consuming component.

Claim 13 is amended as indicated below:

13. (Once amended) A method for blow molding large parts, comprising the steps of:

providing a reinforced plastic melt comprising at least one thermoplastic material and reinforcement particles dispersed within the at least one thermoplastic material, the reinforcement particles comprising less than 15% of a total volume of the plastic melt, at least 50% of the reinforcement particles having

a thickness of less than about 20 nanometers, and at least 99% of the reinforcement particles having a thickness of less than about 30 nanometers;

communicating a tubular formation of said plastic melt to a mold assembly having a mold cavity defined by mold surfaces, said mold surfaces corresponding to a configuration of the part to be molded, an amount of said plastic melt communicated to said mold assembly being sufficient to form a part having a weight of at least 2 pounds and a total surface area of at least 400 sq. inches;

applying pressurized gas to an interior of said tubular formation to expand said tubular formation into conformity with said mold surfaces;

solidifying said plastic melt to form said part; and

removing said part from said mold assembly,

[A method according to claim 1, wherein] said part [comprises] comprising a substantially hollow, integrally formed bumper and radiator and light support structure assembly for a motor vehicle, said method including

forming a radiator frame portion of said integrally formed assembly, and forming apertures in said frame portion for securing a motor vehicle radiator to said support structure,

forming a pair of light receiving recesses of said integrally formed assembly constructed and arranged to mount lights for said motor vehicle, and forming apertures in said recesses for securing said lights to said support structure; and

forming a bumper portion of said integrally formed assembly; and

mounting said assembly on the front end of the motor vehicle.